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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/817,695	03/26/2001	Bertram J. White	TI-31770	9349

23494 7590 11/27/2002

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EXAMINER

SMITH, TYRONE W

ART UNIT PAPER NUMBER

2837

DATE MAILED: 11/27/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/817,695

Applicant(s)

WHITE ET AL.

Examiner

Tyrone W Smith

Art Unit

2837

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 September 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1 and 3-5 rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshida et al. (5834913) in view of Choi et al (5808436). Yoshida discloses a method and apparatus for controlling motor rotation in a disk drive which includes a drive means (Figure 1 #10) to control the motor in three different voltage states and performing motor braking in a low voltage state (abstract; column 12 lines 63-67, column 13 lines 1-22 and column 14 lines 1-20). However, Yoshida does not disclose a control circuit or similar receiving a lower flyback or BEMF voltage during a high state. Choi discloses a starting circuit and starting method for a brushless motor. Choi discloses a circuit for changing the frequency value during a high state in response to an output signal of the comparator and a BEMF signal (abstract; column 1 lines 55-64). It would have been obvious to one of ordinary skill in the art at the time of invention to use Yoshida with Choi. The advantage of combining the two would initiate a spin-down command while the spindle motor is spinning at an operating spin rate and perform a braking operation prior to performing the controlled rotor stopping operation.

3. Claim 2 rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshida et al. (5834913) in view of Choi et al (5808436) as applied to claims 1 and 3-5 above, and further in

view of Carobolante (5566369). Neither Yoshida nor Choi discloses an op amp to feedback a voltage to limit sent flyback or BEMF voltage from the motor. Carobolante discloses a controlled velocity head parking circuit, which describes the limitation of claim 2 (Figure 4; column 3 lines 50-63). It would have been obvious to one of ordinary skill in the art at the time of invention to use Carobolante with Yoshida and Choi. The advantage would provide a circuit for parking the heads in a disk drive at a precisely controlled velocity.

Examiner's Response

4. Applicant's arguments filed September 17, 2002 have been fully considered but they are not persuasive.

Applicant argues that neither Yoshida nor Choi disclose the limitation of controlling the motor using three different voltage states, motor braking in a low voltage state, the control circuit receiving a flyback voltage during a pulse state and the control circuit receiving a reduced flyback voltage during a high state as presented in claim 1-5.

Yoshida controls the motor in three different voltage states as described in Figure 1 items 15 (selecting means) and 20 (power supply using three different voltage states). The selecting means sends a signal to the motor driving means (Figure 1 item 10) to control the motor. Further, Yoshida discloses performing motor braking in a low voltage state, which is equivalent to the deceleration mode in the reference. The rotation speed of the spindle motor is controlled through open loop control using reverse phase braking; deceleration is achieved by selecting a lower voltage supply (low voltage state).

Choi discloses a circuit for changing, reduced or altered, the frequency value during a high state in response to an output signal of the comparator and a BEMF signal. Applicant should refer to Choi in the abstract and column 1 lines 55-64.

Examiner suggests that the Applicant present, in written arguments, how and why the claims overcome Yoshida and Choi. Examiner requests that the Applicant explain, in detail, how Yoshida and Choi lacks teaching or disclosing the claimed limitation. Examiner maintains rejection under 35 U.S.C. 103(a).

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tyrone W Smith whose telephone number is 703-306-5987. The examiner can normally be reached on weekdays from 8:30am to 5:00pm.

Art Unit: 2837

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Nappi, can be reached on (703) 308-3370. The fax phone number for the organization where this application or proceeding is assigned is 703-308-3431.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1782.

Tyrone Smith

Art Unit 2837


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